



Montana Department of  
**ENVIRONMENTAL QUALITY**

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July 19, 2011

Mr. Sam Weyers  
Nelcon, Inc.  
P.O. Box 5370  
Kalispell, MT 59903

Dear Mr. Weyers:

Montana Air Quality Permit #3351-04 is deemed final as of July 19, 2011, by the Department of Environmental Quality (Department). This permit is for a portable rock crushing and screening facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Vickie Walsh  
Air Permitting Program Supervisor  
Air Resources Management Bureau  
(406) 444-9741

Deanne Fischer, P.E.  
Environmental Engineer  
Air Resources Management Bureau  
(406) 444-3403

VW:DF  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #3351-04

Nelcon, Inc.  
P.O. Box 5370  
Kalispell, MT 59903

July 19, 2011



## MONTANA AIR QUALITY PERMIT

Issued To: Nelcon, Inc.  
P.O. Box 5370  
Kalispell, MT 59903

MAQP: #3351-04  
Application Complete: 05/12/2011  
Preliminary Determination Issued: 06/15/2011  
Department's Decision Issued: 07/01/2011  
Permit Final: 07/19/2011  
AFS: 777-3351

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Nelcon, Inc. (Nelcon) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### SECTION I: Permitted Facilities

#### A. Plant Location

Nelcon operates a portable rock crushing and screening facility. MAQP #3351-04 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County.* MAQP #3351-04 and Addendum #3 apply to the Nelcon facility while operating at any location in or within 10 km of certain PM<sub>10</sub> nonattainment areas during the summer season (April 1 – September 30) and at sites approved by the Department during the winter season (October 1 – March 31), including the Nelcon home pit location in Section 36, Township 30 North, Range 21 West, in Flathead County. A complete list of permitted equipment can be found in Section I.A of the Permit Analysis.

#### B. Current Permit Action

On October 21, 2010, the Department received an application for an administrative amendment to MAQP #3351-02. The application identified updates to the equipment list contained in MAQP #3351-02. On October 29, 2010, the Department responded to Nelcon that incorporating the additional equipment into the MAQP could not be accomplished as an administrative amendment and would require a permit modification in accordance with ARM 17.8.748 because the potential emissions from the additional equipment would exceed the de minimis threshold. As such, MAQP #3351-03 was never issued.

On May 12, 2011, the Department received a permit application for a modification to MAQP#3351-02. An updated list of equipment at the Nelcon plant was included in the permit application that showed that the following equipment listed in MAQP #3351-02 was removed or replaced: three crushers, two screens, one 605 brake horsepower (bhp) engine generator, and two 210 bhp engine generators. MAQP 3351-04 includes the following equipment: three crushers, four screens, 18 conveyors, a 1,502 brake horsepower (bhp) diesel engine/generator and other associated equipment.

The current permit action updates the equipment lists in the MAQP and Addendum, revises the emission inventories, adjusts the hourly limitations to reflect the new operational capacity, and updates the permit to reflect current permit language and rule references used by the Department.

## SECTION II: Conditions and Limitations

### A. Emission Limitations

1. All visible emissions from any Standards of Performance for New Stationary Source (NSPS)-affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 Code of Federal Regulations (CFR) 60, Subpart OOO).
  - a. For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity.
  - b. For crushers that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 15% opacity.
2. All visible emissions from any other NSPS-affected equipment, such as screens or conveyor transfers, shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
  - a. For equipment that commences construction, modification, or reconstruction on or after April 22, 2008: 7% opacity.
  - b. For equipment that commences construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 10% opacity.
3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
4. Water and spray bars shall be available on site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.749 and ARM 17.8.752).
5. Nelcon shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
6. Nelcon shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.749 and ARM 17.8.752).
7. Nelcon shall not operate , or have on site, more than three crushers simultaneously at any given time and the total combined maximum rated design capacity of the crushers shall not exceed 1,200 tons per hour (TPH) (ARM 17.8.749).
8. Nelcon shall not operate, or have on site, more than four screening units simultaneously at any given time and the total combined maximum rated design capacity of the screens shall not exceed 1,200 TPH (ARM 17.8.749)
9. Nelcon shall not operate or have on-site more than one diesel engine/generator. The maximum rated design capacity of the engine that drives the generator shall not exceed 1,502 bhp (ARM 17.8.749).

10. The 1,502 bhp diesel engine/generator shall be compliant with EPA non-road compression-ignition engine Tier 2 (at minimum) emission standards for all pollutants for the same model year and maximum engine power (ARM 17.8.749).
11. Operation of the diesel engine/generator shall not exceed 5,000 hours during any rolling 12-month time period (ARM 17.8.749).
12. If the permitted equipment is used in conjunction with any other equipment owned or operated by Nelcon, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).
13. Nelcon shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
14. Nelcon shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures as specified in 40 CFR Part 60.675 must be performed on all NSPS-affected equipment to demonstrate compliance with the emission limitations contained in Section II.A.1 and II.A.2 (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart OOO). Additional testing may be required by 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Nelcon shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but not be limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Nelcon shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit*, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
4. Nelcon shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Nelcon as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
5. Nelcon shall document, by month, the hours of operation of the diesel engine/generator. By the 25<sup>th</sup> day of each month, Nelcon shall calculate the hours of operation for the diesel engine/generator for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitations in Section II.A.11. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

D. Notification

Nelcon shall provide the Department with written notification of the actual start-up date of the crushers, screens, and conveyors postmarked within 15 days after the actual start-up date (ARM 17.8.749).

SECTION III: Addendum

Nelcon shall comply with all conditions in MAQP #3351-04 and Addendum #3, as applicable (ARM 17.8.749).

SECTION IV: General Conditions

- A. Inspection – Nelcon shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as continuous emission monitoring systems (CEMS) or continuous emission rate monitoring systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Nelcon fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Nelcon of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.* (ARM 17.8.756)
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Nelcon may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).
- I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.
- J. Nelcon shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis  
Nelcon, Inc.  
MAQP #3351-04

I. Introduction/Process Description

A. Permitted Equipment

Nelcon, Inc. (Nelcon) owns and operates a portable rock crushing and screening facility consisting of:

- Three crushers with a total combined maximum rated capacity of 1,200 tons per hour (TPH)
  - two crushers include screens,
- Two stand-alone screens, which when combined with the two screens associated with the crushers have a total combined rated capacity of 1,200 TPH,
- One 1,502 brake horsepower (bhp) diesel engine/generator,
- 18 conveyors/stackers, and
- Other associated equipment (feeders, pugmill, etc.).

B. Source Description

Nelcon proposes to use this crushing/screening plant and associated equipment to crush sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a feeder, transferred by conveyor to a scalping screen, and passed through the crushers. Materials are crushed by the crushers and sent to the screens. Materials are screened, separated, and sent to stockpile for sale and use in construction operations.

C. Permit History

The Department of Environmental Quality (Department) issued **MAQP #3351-00** to Nelcon on October 5, 2004. MAQP #3351-00 allowed the operation of a portable crushing and screening facility consisting of a portable 1985 EL-Jay 45-inch Cone Crusher (up to 400 TPH) with an EL-Jay (5 foot (ft) x 14 ft) screen (up to 400 TPH), a 1990 Homemade (6 ft x 20 ft) 3-deck screen (up to 400 TPH), a diesel engine/generator (up to 650 kilowatts (kW)), and associated equipment.

On March 16, 2006, the Department received a request from Nelcon for an administrative amendment to MAQP #3351-00 to allow for winter season operations (October 1 – March 31) and summer season operations (April 1 – September 30) in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. The Department administratively amended the MAQP with an addendum to allow for both winter season and summer season operations at certain locations in or within 10 km of the Butte, Columbia Falls, Libby, Kalispell, Thompson Falls, and Whitefish PM<sub>10</sub> nonattainment areas. **MAQP #3351-01** replaced MAQP #3351-00 and established **Addendum #1**.

On March 3, 2010, the Department received a partial application to update MAQP #3351-01 with additional equipment. This equipment consisted of three crushers, three screens, and two diesel engines/generators. In addition to adding the new equipment, Nelcon requested to remove one existing crusher, two existing screens, and one existing



engine/generator from the MAQP. On March 24, 2010, the Department responded to Nelcon in an email that incorporating the additional equipment into the MAQP would require a permit modification in accordance with ARM 17.8.748 because the potential emissions from the additional equipment would exceed the de minimis threshold. A subsequent letter sent April 29, 2010 further illustrated the Department's conclusion, described the additional items required, and set a deadline for when the additional materials needed to be received. The Department received the remaining items to complete the MAQP application on May 24, 2010 and June 11, 2010. The permit action updated the equipment lists in the MAQP and Addendum, revised the emission inventories, and adjusted the synthetic minor production and hourly limitations to reflect the new operational capacity. **MAQP #3351-02** replaced MAQP #3351-01 and **Addendum #2** replaced Addendum #1.

#### D. Current Permit Action

On October 21, 2010, the Department received an application for an administrative amendment to MAQP #3351-02. The application identified updates to the equipment list contained in MAQP #3351-02. On October 29, 2010, the Department responded to Nelcon that incorporating the additional equipment into the MAQP would require a permit modification in accordance with Administrative Rules of Montana (ARM) 17.8.748 because the potential emissions from the additional equipment would exceed the de minimis threshold. As such, MAQP #3351-03 was never issued.

On May 12, 2011, the Department received a permit application for a modification to MAQP#3351-02. An updated list of equipment at the Nelcon plant was included in the permit application that showed that the following equipment listed in MAQP #3351-02 was removed or replaced: three crushers, two screens, one 605 brake horsepower (bhp) engine generator, and two 210 bhp engine generators. MAQP 3351-04 includes the following equipment: three crushers, four screens, 18 conveyors, a 1,502 brake horsepower (bhp) diesel engine/generator and other associated equipment.

The current permit updates the equipment lists in the MAQP and Addendum, revises the emission inventories, adjusts hourly limitations to reflect the new operational capacity, and updates the permit to reflect current permit language and rule references used by the Department. **MAQP #3351-04** replaces MAQP #3351-02 and **Addendum #3** replaces Addendum #2.

#### E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

## II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

#### A. ARM 17.8, Subchapter 1 – General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Nelcon shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.221 Ambient Air Quality Standard for Visibility
6. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

Nelcon must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions are taken to control emissions of airborne particulate matter. (2) Under this rule, Nelcon shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Nelcon is considered an NSPS-affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.
  - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
  - b. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing plant to be subject to this subpart, the facility must meet the definition of an affected facility and the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Nelcon, some of the portable crushing and screening equipment to be used under MAQP #3351-04 is subject to this subpart because the size and date of manufacture of the equipment.
  - c. 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by Nelcon, the diesel engine/generator to be used under MAQP #3351-04 is subject to this subpart because it was manufactured after April 1, 2006.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Nelcon is considered a NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts.
    - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below:
    - b. 40 CFR 63, Subpart ZZZZ – NESHAPs for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of hazardous air pollutant (HAP) emissions is a source that is not a major source. Based on the information submitted by Nelcon, the RICE equipment to be used under MAQP #3351-04 is subject to this subpart because the Nelcon plant is an area source of HAP emissions.
- D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Nelcon submitted the appropriate permit application fee for the current permit action.
  2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department; the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.
- An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.
- E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
  2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year (TPY) of any pollutant. Nelcon has a PTE greater than 15 TPY of particulate matter (PM), PM<sub>10</sub> and oxides of nitrogen (NO<sub>x</sub>); therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements.

(1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Nelcon submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Nelcon submitted an affidavit of publication of public notice for the April 22, 2011, issue of the *Daily Interlake*, a newspaper of general circulation in the Town of Kalispell in Flathead County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Nelcon of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
14. ARM 17.8.765 Transfer of Permit. (1) This rule states that an MAQP may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and the facility's PTE is less than 250 TPY of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:
  - a. PTE > 100 TPY of any pollutant;
  - b. PTE > 10 TPY of any one HAP, PTE > 25 TPY of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
  - c. PTE > 70 TPY of PM<sub>10</sub> in a serious PM<sub>10</sub> nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #3351-04 for Nelcon, the following conclusions were made:
  - a. The facility's PTE is less than 100 TPY for any pollutant.

- b. The facility's PTE is less than 10 TPY for any one HAP and less than 25 TPY of all HAPs.
- c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
- d. This facility is subject to current NSPS (40 CFR 60, Subpart and Subpart IIII).
- e. This facility is subject to a current NESHAP (40 CFR 63, Subpart ZZZZ).
- f. This source is not a Title IV affected source or a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

Based on these facts, the Department has determined that Nelcon will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Nelcon will be required to obtain a Title V Operating Permit.

### III. BACT Determination

A BACT determination is required for each new or modified source. Nelcon shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

#### A. Area Source Fugitive Emissions and Crushing/Screening Emissions

Two types of emissions controls are readily available and used for dust suppression of fugitive emissions at the site, fugitive emissions for the surrounding area of operations, and for equipment emissions from the crushing/screening operation. These two control methods are water and chemical dust suppressant. Chemical dust suppressant could be used on the area surrounding the crushing/screening operation, and for emissions from the crushing/screening operation. However, water is more readily available, is more cost effective, is equally effective as chemical dust suppressant, and is more environmentally friendly. Therefore, water has been identified as the most appropriate method of pollution control of particulate emissions for the general plant area. In addition, water suppression has been required of recently permitted similar sources. Nelcon may, however, use chemical dust suppressant to assist in controlling particulate emissions from the surrounding plant area.

Nelcon shall not cause or authorize to be discharged into the atmosphere from any non-NSPS affected equipment, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

In accordance with 40 CFR 60, Subpart OOO, all visible emissions from any NSPS-affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes:

- For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity.
- For crushers that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 15% opacity.

All visible emissions from any other NSPS-affected equipment, such as screens or conveyor transfers, shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes:

- For equipment that commences construction, modification, or reconstruction on or after April 22, 2008: 7% opacity.
- For equipment that commences construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 10% opacity.

Nelcon must also take reasonable precautions to limit the fugitive emissions of airborne particulate matter from haul roads, access roads, parking areas, and the general area of operation. Nelcon is required to have water spray bars and water available on site (at all times) and to apply the water, as necessary, to maintain compliance with the opacity and reasonable precaution limitations. Nelcon may also use chemical dust suppression in order to maintain compliance with emission limitations in Section II.A of MAQP #3351-04. The Department determined that using water spray bars, water, and chemical dust suppressant to maintain compliance with the opacity requirements and reasonable precaution limitations constitutes BACT for the crushing/screening operation.

#### B. Diesel Engines

Due to the limited amount of emissions produced by the diesel engine/generator and the lack of readily available cost effective add-on controls, add-on controls would be cost prohibitive. Therefore, the Department determined that proper operation and maintenance with no add-on controls would constitute BACT for the diesel engine/generator.

In addition, any diesel engine manufactured after April 1, 2006, would be required to comply with the NSPS emission limitations for stationary compression-ignition engines (40 CFR 60, Subpart IIII). Diesel engines that were constructed or rebuilt prior to June 12, 2006, would be required to comply with the emission limitations and compliance demonstrations found in 40 CFR 63, Subpart ZZZZ.

The control options selected contain control equipment and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

#### IV. Emission Inventory

Emission Source	TPY						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>
Cold Aggregate Storage Piles	8.69	4.11	0.62	--	--	--	--
Cold Aggregate Handling/Conveyors	94.61	34.69	0.82	--	--	--	--
Cold Aggregate Screens	65.70	22.86	0.26	--	--	--	--
Crushers	14.19	6.31	0.53	--	--	--	--
Haul Roads / Vehicle Traffic	5.68	1.57	0.16	--	--	--	--
1,502 bhp Diesel Engine: 900 kW Gen	1.57	1.57	1.57	39.57	1.16	0.17	7.70
<b>Total Emissions</b>	<b>190.44</b>	<b>71.11</b>	<b>3.96</b>	<b>39.57</b>	<b>1.16</b>	<b>0.17</b>	<b>7.70</b>

##### NOTES:

PM<sub>2.5</sub> Particulate matter with an aerodynamic diameter of 2.5 microns or less

PM<sub>10</sub> Particulate matter with an aerodynamic diameter of 10 microns or less

VOC Volatile Organic Compounds

SO<sub>2</sub> Sulfur dioxide

- All PM values include filterable and condensable fractions where applicable.
- Annual hours of operation for the diesel engine/generator is limited to 5,000 hours per year to keep total NO<sub>x</sub> emissions below the modeling threshold of 40 TPY.



## Calculations

### **Cold Aggregate Storage Piles**

Maximum Process Rate = 1,200 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Piles = 1 pile (for simplicity, storage piles are modeled as maximum plant capacity discharging onto a single pile)

#### **Filterable PM Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor =  $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00331 \text{ lb/ton}$

Where:  $k$  = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)

$U$  = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$M$  = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00331 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (50\%) = 8.69 \text{ TPY}$

#### **Filterable PM<sub>10</sub> Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor =  $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00156 \text{ lb/ton}$

Where:  $k$  = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)

$U$  = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$M$  = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00156 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (50\%) = 4.11 \text{ TPY}$

#### **Filterable PM<sub>2.5</sub> Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor =  $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00024 \text{ lb/ton}$

Where:  $k$  = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)

$U$  = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$M$  = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (50\%) = 0.62 \text{ TPY}$

### **Conveyor Transfer Point**

Maximum Process Rate = 400 ton/hr (Maximum single screen or crusher process rate estimate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Transfers = 36 transfer (assuming a maximum of 2 transfers/conveyor, 18 conveyors)

#### **Filterable PM Emissions:**

Emission Factor = 0.003 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.003 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (36 \text{ transfer}) * (50\%) = 94.61 \text{ TPY}$

#### **Filterable PM<sub>10</sub> Emissions:**

Emission Factor = 0.0011 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0011 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (36 \text{ transfer}) * (50\%) = 34.69 \text{ TPY}$

**Filterable PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation:  $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000013 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (36 \text{ transfer}) = 0.82 \text{ TPY}$

**Screening**

Maximum Process Rate = 1,200 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Screens = 1 screen (4 screens in operation modeled as 1 screen at maximum plant rate)

**Total PM Emissions:**

Emission Factor = 0.025 lb/ton (0.025 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.025 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) * (50\%) = 65.70 \text{ TPY}$

**Total PM<sub>10</sub> Emissions:**

Emission Factor = 0.0087 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0087 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) * (50\%) = 22.86 \text{ TPY}$

**Total PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00005 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) = 0.26 \text{ TPY}$

**Crushing**

Maximum Process Rate = 1,200 ton/hr (Application information, max plant rate with 3 crushers)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Crushers = 1 crusher (3 crushers in operation modeled as 1 crusher at maximum plant rate)

**PM Emissions:**

Emission Factor = 0.0054 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0054 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (50\%) = 14.19 \text{ TPY}$

**PM<sub>10</sub> Emissions:**

Emission Factor = 0.0024 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (50\%) = 6.31 \text{ TPY}$

**PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.0001 lb/ton (tertiary crushing (controlled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation:  $(1,200 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0001 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.53 \text{ TPY}$

**1,502 bhp Diesel Engine: 900 kW Gen**

Note: Emissions are based on the maximum rated bhp of the engines

Operational Capacity of Engine/generator = 1,502 bhp

Hours of Operation = 5,000 hours

**Total PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.19 g/bhp-hr (manufacturers data for EPA certified Tier 2 engine)

Calculation:  $(1,502 \text{ bhp}) * (5,000 \text{ hours}) * (0.19 \text{ g/bhp-hr}) * (0.0022 \text{ lb/g}) * (\text{ton}/2000 \text{ lb}) = 1.57 \text{ ton/yr}$

**NO<sub>x</sub> Emissions:**

Emission Factor = 4.78 g/bhp-hr (manuf. data Tier 2)

Calculation: (1,502 bhp) \* (5,000 hours) \* (4.78 g/bhp-hr) \* (0.0022 lb/g) \* (ton/2000 lb) = 39.57 ton/yr

**CO Emissions:**

Emission Factor = 0.14 g/bhp-hr (manuf. data Tier 2)

Calculation: (1,502 bhp) \* (5,000 hours) \* (0.14 g/bhp-hr) \* (0.0022 lb/g) \* (ton/2000 lb) = 1.16 ton/yr

**VOC Emissions:**

Emission Factor = 0.02 g/bhp-hr (manuf. data Tier 2)

Calculation: (1,502 bhp) \* (5,000 hours) \* (0.02 g/bhp-hr) \* (0.0022 lb/g) \* (ton/2000 lb) = 0.17 ton/yr

**SO<sub>2</sub> Emissions:**

Emission Factor = 0.00205 lbs/bhp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (1,502 bhp) \* (5,000 hours) \* (0.00205 lbs/bhp-hr) \* (ton/2000 lb) = 7.70 ton/yr

**Haul Roads**

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)

VMT per hour = (5 VMT/day) \* (day/24 hrs) = 0.21 VMT/hr

Hours of Operation = 8,760 hrs/yr

**PM Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor =  $k * (s / 12)^a * (W / 3)^b = 12.46 \text{ lb/VMT}$

Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) \* (0.21 VMT/hr) \* (12.46 lb/VMT) \* (ton/2000 lb) \* (50%) = 5.68 TPY

**PM<sub>10</sub> Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor =  $k * (s / 12)^a * (W / 3)^b = 3.43 \text{ lb/VMT}$

Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) \* (0.21 VMT/hr) \* (3.43 lb/VMT) \* (ton/2000 lb) \* (50%) = 1.57 TPY

**PM<sub>2.5</sub> Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor =  $k * (s / 12)^a * (W / 3)^b = 0.34 \text{ lb/VMT}$

Where: k = constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.9 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) \* (0.21 VMT/hr) \* (0.34 lb/VMT) \* (ton/2000 lb) \* (50%) = 0.16 TPY

V. Existing Air Quality

MAQP #3351-04 with Addendum #3 is issued for the operation of a portable rock crushing and screening facility to operate at various locations throughout Montana. MAQP #3351-04 applies while operating in areas designated as attainment or unclassified for all National Ambient Air Quality Standards (NAAQS); excluding those counties that have a Department-approved permitting program, those areas considered Tribal Lands, or those areas in or within 10 km of certain PM<sub>10</sub> nonattainment areas. *A Missoula County air quality permit would be required for locations within Missoula County, Montana.* MAQP #3351-04 and Addendum #3 apply to the Nelcon facility while operating at any location in or within 10 km of certain PM<sub>10</sub> nonattainment areas during the summer season (April 1 – September 30) and at sites approved by the Department during the winter season (October 1 – March 31), including the home pit location in Section 36, Township 30 North, Range 21 West, in Flathead County, Montana.

VI. Air Quality Impacts

This MAQP is for a portable rock crushing and screening plant to be located at various locations around Montana. This permit contains operational conditions and limitations that would protect air quality for this site and the surrounding area. The facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and short-lived. Further, the amount of controlled particulate emissions generated by this project should not cause concentrations of PM<sub>10</sub> in the ambient air that exceed the set standard while operating in compliance with the permit conditions. In addition, this source is portable and any air quality impacts will be minimal.

VII. Ambient Air Impact Analysis

The Department determined that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)

YES	NO	
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

#### IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Addendum #3  
Nelcon, Inc.  
Montana Air Quality Permit (MAQP) #3351-04

An addendum to MAQP #3351-04 is hereby granted to Nelcon, Inc. (Nelcon) pursuant to Section 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.765, as amended, for the following:

I. Permitted Equipment:

Nelcon owns and operates a portable rock crushing and screening facility consisting of:

- Three crushers with a combined maximum rated capacity of 1,200 tons per hour (TPH)
  - two crushers include screens,
- Two stand-alone screens, which when combined with the two screens associated with the crushers have a combined rated capacity of 1,200 TPH,
- One 1,502 brake horsepower (bhp) diesel engine/generator,
- 18 conveyors/stackers, and
- Other associated equipment (feeders, pugmill, etc.).

II. Seasonal and Site Restrictions – **Winter and Summer Seasons**

Addendum #3 applies to the Nelcon facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

- A. During the winter season (October 1 – March 31) - The only location in or within 10 km of a PM<sub>10</sub> nonattainment area where Nelcon may operate is:
1. Columbia Falls/Kalispell/Whitefish PM<sub>10</sub> nonattainment Area – Section 36, Township 30 North, Range 21 West (Jellison Road); and
  2. Any other site that may be approved, in writing, by the Department of Environmental Quality (Department).
- B. During the summer season (April 1 – September 30) – Nelcon may operate at any location in or within 10 km of the Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish PM<sub>10</sub> nonattainment areas.
- C. Nelcon shall comply with the limitations and conditions contained in Addendum #3 to MAQP #3351-04 while operating in or within 10 km of any of the previously identified PM<sub>10</sub> nonattainment areas. Addendum #3 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum #3 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

### III. Limitations and Conditions

#### A. Operational Limitations and Conditions – **Winter Season (October 1 – March 31) and Summer Season (April 1 – September 30)**

1. Water spray bars must be available and operated, as necessary, on the crushers, screens, and all transfer points whenever the crushing/screening plant is in operation to maintain compliance with the opacity limitations found in Section III.A.2, III.A.3, and III.A.4 (ARM 17.8.749 and ARM 17.8.752).
2. Nelcon shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749). For any Standards of Performance for New Stationary Source NSPS-affected equipment constructed after April 22, 2008 for which an opacity limitation of 7% applies (such as screens and conveyors), that 7% limit shall apply to the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
3. Nelcon shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).
4. Nelcon shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749 and ARM 17.8.752).
5. Nelcon shall not operate, or have on site, more than three crushers at any one time. The combined total crusher production shall not exceed 1,200 TPH (ARM 17.8.749).
6. Nelcon shall not operate, or have on site, more than four screens at any one time. The combined total screen production shall not exceed 1,200 TPH (ARM 17.8.749).
7. Nelcon shall not operate, or have on site, more than one diesel engine/generator with a maximum rated design capacity of 1,502 bhp. (ARM 17.8.749).

#### B. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another nonattainment location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. Production information for the sites covered by this addendum must be maintained for 5 years and submitted to the Department upon request. The information must include (ARM 17.8.749):

- a. Daily tons of material crushed by each crusher at each site (including amount of recirculated/rerun material). Nelcon shall document, by day, the total crushing production. Nelcon shall sum the total crushing production for the previous day to demonstrate compliance with the limitations in Sections III.A.5.
- b. Daily tons of material screened by each screen at each site (including amount of recirculated/rerun material). Nelcon shall document, by day, the total screening production. Nelcon shall sum the total crushing production for the previous day to demonstrate compliance with the limitations in Sections III.A.6.
- c. Daily tons of bulk material loaded at each site (production),
- d. Daily hours of operation at each site,
- e. Daily hours of operation and the bhp for the diesel engine/generator at each site,
- f. Fugitive dust information consisting of the daily total miles driven on unpaved roads within the operating site for all plant vehicles.



Addendum #3 Analysis  
Nelcon, Inc.  
Montana Air Quality Permit (MAQP) #3351-04

I. Permitted Equipment

Nelcon, Inc. (Nelcon) owns and operates a portable rock crushing and screening facility consisting of:

- Three crushers with a combined maximum rated capacity of 1,200 tons per hour (TPH)
  - two crushers include screens,
- Two stand-alone screens, which when combined with the two screens associated with the crushers have a combined rated capacity of 1,200 TPH,
- One 1,502 brake horsepower (bhp) diesel engine/generator,
- 18 conveyors/stackers, and
- Other associated equipment (feeders, pugmill, etc.).

II. Source Description

Nelcon uses this crushing/screening plant to crush, screen, and sort sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a feeder, transferred by conveyor to a scalping screen, and passed through the crushers. Materials are crushed by the crushers and sent to the screens. Materials are screened, separated, and sent to stockpile for sale and use in construction operations.

III. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

- A. ARM 17.8.749 Conditions for Issuance of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
- B. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.
- C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:

1. Written notice of intent to transfer location and proof of public notice are sent to the Department;
2. The source will operate in the new location for a period of less than 1 year; and
3. The source will not have any significant impact on any nonattainment area or any Class I area.

#### IV. Emission Inventory

<b>UNRESTRICTED DAILY PRODUCTION**</b>	<b>Winter and Summer Season Emissions (pounds per day)</b>						
	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>	<b>SO<sub>2</sub></b>
Cold Aggregate Storage Piles	47.59	22.51	3.41	--	--	--	--
Cold Aggregate Handling/Conveyors	518.40	190.08	4.49	--	--	--	--
Cold Aggregate Screens	360.00	125.28	1.44	--	--	--	--
Crushers	77.76	34.56	2.88	--	--	--	--
Haul Roads / Vehicle Traffic	31.15	8.59	0.86	--	--	--	--
1,502 bhp Diesel Engine: 900 kW Gen	15.10	15.10	15.10	379.88	11.13	1.59	73.90
<b>Total Emissions</b>	<b>1050.00</b>	<b>396.12</b>	<b>28.18</b>	<b>379.88</b>	<b>11.13</b>	<b>1.59</b>	<b>73.90</b>

##### NOTES:

PM Particulate Matter  
PM<sub>10</sub> PM with an aerodynamic diameter of 10 microns or less  
PM<sub>2.5</sub> PM with an aerodynamic diameter of 2.5 microns or less  
NO<sub>x</sub> Oxides of Nitrogen  
CO Carbon Monoxide  
VOC Volatile Organic Compounds  
SO<sub>2</sub> Sulfur Dioxide

\*\*Nonattainment area impact analysis demonstrates that the total modeled 24 hour PM<sub>10</sub> impact from the generator would be less than the PM<sub>10</sub> significance level of 5 µg/m<sup>3</sup> and will not cause or contribute to a violation of the NAAQS in a nonattainment area (based on 40 CFR Part 52, Appendix S)

#### CALCULATIONS

##### **Cold Aggregate Storage Piles**

Maximum Process Rate = 1,200 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 24 hrs/day (summer season)

Maximum Hours of Operation = 24 hrs/day (winter season)

Number of Piles = 1 piles

**Filterable PM Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor =  $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00331 \text{ lb/ton}$

Where:  $k$  = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)

$U$  = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$M$  = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00331 \text{ lb/ton}) * (1 \text{ piles}) * (50\%) = 47.59 \text{ lb/day}$

**Filterable PM<sub>10</sub> Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor =  $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00156 \text{ lb/ton}$

Where:  $k$  = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)

$U$  = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$M$  = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00156 \text{ lb/ton}) * (1 \text{ piles}) * (50\%) = 22.51 \text{ lb/day}$

**Filterable PM<sub>2.5</sub> Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor =  $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00024 \text{ lb/ton}$

Where:  $k$  = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)

$U$  = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$M$  = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00024 \text{ lb/ton}) * (1 \text{ piles}) * (50\%) = 3.41 \text{ lb/day}$

**Conveyor Transfer Point (SCC 3-05-02006)**

Maximum Process Rate = 400 ton/hr (Maximum single screen or crusher process rate estimate)

Maximum Hours of Operation = 24 hrs/day

Maximum Hours of Operation = 24 hrs/day

Number of Transfers = 36 transfer

**Filterable PM Emissions:**

Emission Factor = 0.003 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.003 \text{ lb/ton}) * (36 \text{ transfer}) * (50\%) = 518.84 \text{ lb/day}$

**Filterable PM<sub>10</sub> Emissions:**

Emission Factor = 0.0011 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.0011 \text{ lb/ton}) * (36 \text{ transfer}) * (50\%) = 190.08 \text{ lb/day}$

**Filterable PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation:  $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.000013 \text{ lb/ton}) * (36 \text{ transfer}) = 4.49 \text{ lb/day}$

**Fines Screening (SCC 3-05-020-21)**

Maximum Process Rate = 1,200 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 24 hrs/day (summer season)

Maximum Hours of Operation = 24 hrs/day (winter season)

Number of Screens = 1 screen(s) (using max plant rate with 4 screens in operation)

**Total PM Emissions:**

Emission Factor = 0.025 lb/ton (0.025 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.025 \text{ lb/ton}) * (1 \text{ screen(s)}) * (50\%) = 360.00 \text{ lb/day}$

**Total PM<sub>10</sub> Emissions:**

Emission Factor = 0.0087 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.0087 \text{ lb/ton}) * (1 \text{ screen(s)}) * (50\%) = 125.28 \text{ lb/day}$

**Total PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00005 \text{ lb/ton}) * (1 \text{ screen(s)}) = 1.44 \text{ lb/day}$

**Crushing (SCC 3-05-020-05)**

Maximum Process Rate = 1,200 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 24 hrs/day (summer season)

Maximum Hours of Operation = 24 hrs/day (winter season)

Number of Crushers = 1 crusher(s) (using max plant rate with 3 crushers in operation)

**Total PM Emissions:**

Emission Factor = 0.0054 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.0054 \text{ lb/ton}) * (1 \text{ crusher(s)}) * (50\%) = 77.76 \text{ lb/day}$

**Total PM<sub>10</sub> Emissions:**

Emission Factor = 0.0024 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.0024 \text{ lb/ton}) * (1 \text{ crusher(s)}) * (50\%) = 34.56 \text{ lb/day}$

**Total PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.0001 lb/ton (tertiary crushing (controlled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation:  $(1,200 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.0001 \text{ lb/ton}) * (1 \text{ crusher(s)}) = 2.88 \text{ lb/day}$

**1,502 bhp Diesel Engine: 900 kW Gen**

Note: Emissions are based on the maximum rated bhp of the engines

**1,502 bhp Diesel Engine: 900 kW Gen**

Operational Capacity of Engine = 1,502 bhp

Hours of Operation = 24 hrs/day (summer season)

Hours of Operation = 24 hrs/day (winter season)

**Total PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emissions:**

Emission Factor = 0.19 g/bhp-hr (manuf. data Tier 2)(All PM < 1 mm, AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation:  $(24 \text{ hrs/day}) * (1,502 \text{ bhp}) * (0.19 \text{ g/bhp-hr}) * (0.0022 \text{ lb/g}) = 15.10 \text{ lb/day}$

**NO<sub>x</sub> Emissions:**

Emission Factor = 4.78 g/bhp-hr (manuf. data Tier 2)

Calculation:  $(24 \text{ hrs/day}) * (1,502 \text{ bhp}) * (4.78 \text{ g/bhp-hr}) * (0.0022 \text{ lb/g}) = 379.88 \text{ lb/day}$

**CO Emissions:**

Emission Factor = 0.14 g/bhp-hr (manuf. data Tier 2)

Calculation: (24 hrs/day) \* (1,502 bhp) \* (0.14 g/bhp-hr) \* (0.0022 lb/g) = 11.13 lb/day

**VOC Emissions:**

Emission Factor = 0.02 g/bhp-hr (manuf. data Tier 2)

Calculation: (24 hrs/day) \* (1,502 bhp) \* (0.02 g/bhp-hr) \* (0.0022 lb/g) = 1.59 lb/day

**SO<sub>2</sub> Emissions:**

Emission Factor = 0.00205 lbs/bhp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (24 hrs/day) \* (1,502 bhp) \* (0.00205 lbs/bhp-hr) = 73.90 lb/day

**CO<sub>2</sub> Emissions:**

Emission Factor = 1.15 lbs/bhp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (24 hrs/day) \* (1,502 bhp) \* (1.15 lbs/bhp-hr) = 41,455.20 lb/day

**Haul Roads**

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)

VMT per hour = (5 VMT/day) \* (day/24 hrs) = 0.21 VMT/hr

Hours of Operation = 24 hrs/day (summer season)

Hours of Operation = 24 hrs/day (winter season)

**PM Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor =  $k * (s / 12)^a * (W / 3)^b = 12.46 \text{ lb/VMT}$

Where:  $k$  = constant = 4.9 lbs/VMT (Value for PM<sub>30</sub>/TSP, AP 42, Table 13.2.2-2, 11/06)

$s$  = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

$W$  = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

$a$  = constant = 0.7 (Value for PM<sub>30</sub>/TSP, AP 42, Table 13.2.2-2, 11/06)

$b$  = constant = 0.45 (Value for PM<sub>30</sub>/TSP, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (24 hrs/day) \* (0.21 VMT/hr) \* (12.46 lb/VMT) \* (50%) = 31.15 lb/day

**PM<sub>10</sub> Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor =  $k * (s / 12)^a * (W / 3)^b = 3.43 \text{ lb/VMT}$

Where:  $k$  = constant = 1.5 lbs/VMT (Value for PM<sub>10</sub>, AP 42, Table 13.2.2-2, 11/06)

$s$  = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

$W$  = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

$a$  = constant = 0.9 (Value for PM<sub>10</sub>, AP 42, Table 13.2.2-2, 11/06)

$b$  = constant = 0.45 (Value for PM<sub>10</sub>, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (24 hrs/day) \* (0.21 VMT/hr) \* (3.43 lb/VMT) \* (50%) = 8.59 lb/day

**PM<sub>2.5</sub> Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor =  $k * (s / 12)^a * (W / 3)^b = 0.34 \text{ lb/VMT}$

Where:  $k$  = constant = 0.15 lbs/VMT (Value for PM<sub>2.5</sub>, AP 42, Table 13.2.2-2, 11/06)

$s$  = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

$W$  = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

$a$  = constant = 0.9 (Value for PM<sub>2.5</sub>, AP 42, Table 13.2.2-2, 11/06)

$b$  = constant = 0.45 (Value for PM<sub>2.5</sub>, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (24 hrs/day) \* (0.21 VMT/hr) \* (0.34 lb/VMT) \* (50%) = 0.86 lb/day

## V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>). Due to exceedances of the national standards for PM<sub>10</sub>, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for PM<sub>10</sub>. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit PM<sub>10</sub> State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies identified these sources to be the major contributors to PM<sub>10</sub> emissions.

MAQP #3351-04 and Addendum #3 are for a portable crushing/screening plant that will locate at sites in or within 10 kilometers (km) of certain PM<sub>10</sub> nonattainment areas. Screen modeling indicates that the Nelcon crushing/screening plant will have minor potential impacts on the PM<sub>10</sub> nonattainment areas and will not cause or contribute to a violation of the NAAQS. Also, this facility is a portable source that would be expected to operate on an intermittent and temporary basis and any effects on air quality would be expected to be minor and short-lived.

## VI. Air Quality Impacts

MAQP #3351-04 and Addendum #3 will cover the operations of this portable crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department-approved permitting program and those areas that are tribal lands.

Addendum #3 will cover the operations of this portable crushing/screening plant, while operating in or within 10 km of the Columbia Falls/Kalispell/Whitefish PM<sub>10</sub> nonattainment area (Jellison Road Nelcon home pit) during the winter season (October 1 - March 31). Additionally, the facility will also be allowed to operate in or within 10 km of PM<sub>10</sub> nonattainment areas during the summer season (April 1 - September 30).

## VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment (see Section VIII of the Permit Analysis for MAQP #3351-04) and determined there are no taking or damaging implications.

## VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Addendum Analysis Prepared by: Deanne Fischer

Date: June 3, 2011

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Permitting and Compliance Division**  
**Air Resources Management Bureau**  
**P.O. Box 200901, Helena, MT 59620**  
**(406) 444-3490**

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

*Issued To:* Nelcon, Inc.

*Montana Air Quality Permit number:* 3351-04

*Preliminary Determination Issued:* June 15, 2011

*Department Decision Issued:* July 1, 2011

*Permit Final:* July 19, 2011

1. *Legal Description of Site:* The Nelcon facility would operate at various locations throughout Montana. MAQP #3351-04 applies while operating in areas designated as attainment or unclassified for all NAAQS; excluding those counties that have a Department-approved permitting program, those areas considered Tribal Lands, or those areas in or within 10 km of certain PM<sub>10</sub> nonattainment areas. *A Missoula County air quality permit would be required for locations within Missoula County, Montana.* Addendum #3 applies to the Nelcon facility while operating at any location in or within 10 km of certain PM<sub>10</sub> nonattainment areas during the summer season (April 1 – September 30) and at sites approved by the Department during the winter season (October 1 – March 31), including the home pit location in Section 36, Township 30 North, Range 21 West, in Flathead County, Montana.
2. *Description of Project:* Nelcon operates a portable rock crushing and screening facility with a maximum potential production capacity of 1,200 TPH at various locations throughout Montana. The project consists of updating the equipment list contained in MAQP #3351-04 to include four screening units, three crushing units, one diesel engine/generator, and material handling conveyors. The plant utilizes electricity provided by one diesel engine/generator with a maximum rated design capacity of 1,502 bhp. The proposed permit action would update the equipment authorized by MAQP #3351-04, allowing the construction and operation of the plant in locations across the state.
3. *Objectives of Project:* The objective of the construction and operation of the rock crushing and screening facility would be to produce business and revenue by selling aggregate to support construction projects. The issuance of MAQP #3351-04 would allow Nelcon to operate the permitted equipment at various locations throughout Montana, including the home pit location.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the MAQP to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because Nelcon has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #3351-04.

6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.
7. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			Yes

**SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:** The following comments have been prepared by the Department.

**A. Terrestrial and Aquatic Life and Habitats**

There would be a possibility that terrestrials would use the same area as the crushing and screening equipment. Impacts on terrestrials and aquatic life could result from storm water runoff, water runoff from the pollution control of the crushing/screening operation, and pollutant deposition. Such impacts would be minor because the crushing and screening operations would be considered a minor source of emissions with seasonal and intermittent operations. Therefore, only minor and temporary effects to terrestrial and aquatic life and habitat would be expected from the inclusion of the proposed equipment.

**B. Water Quality, Quantity and Distribution**

Water would be required for dust suppression on the surrounding roadways, at areas of operation, and pollution control for equipment operations. There exists the potential that water used at the proposed facility for dust suppression purposes could make its way to surrounding water bodies. Application of water spray for dust suppression typically results in the water being evaporated to the atmosphere shortly after its application. Water's dust suppressing capacity is very temporary because of evaporation. Heavy applications of water could create soft mud or penetrate a road to the sub-base which can cause major road failure; therefore, heavy applications are typically not utilized. Consequently, several light applications are preferable to one heavy application. The Department feels that pollutant deposition and water use would cause minor impacts, if any, to water resources in these areas because the facility would be a minor source of air emissions and only a relatively small volume of water would be used. While the Department has recommended using water as the primary dust controlling



substance, the applicant would have the option of using additional chemical dust suppressants if necessary to control fugitive emissions. Chemical dust suppressants are designed to stay mostly at one place after application and are typically applied to road surfaces. Although some dust suppressant would be washed into the environment after application, the quantities are expected to be relatively small. Overall, the equipment would have minor impacts to water quality, quantity, and distribution in the area of operations.

C. Geology and Soil Quality, Stability and Moisture

The proposed equipment would have minor impacts on geology, soil quality, stability, and moisture of soils due to the increase in production capacity at the plant. Minor impacts from deposition of air pollutants on soils would result and minor amounts of water would be used for pollution control and only as necessary in controlling particulate emissions. Thus, minimal water runoff would occur. Since a small amount of pollution would be generated and corresponding emissions would be widely dispersed before settling upon vegetation and surrounding soils, impacts would be minor. Therefore, any effects upon geology and soil quality, stability, and moisture from air pollutant emissions from equipment and operation would be minor.

D. Vegetation Cover, Quantity, and Quality

There are six known plant species of concern within the project area which includes the Section of the home pit area and an additional one-mile buffer surrounding the area. The overall footprint of the facility would not change as a result of the inclusion of the additional equipment, so the effect to quantity and quality of vegetative cover in the area would be minimal due to the increased production capacity. The facility would be considered a minor source of emissions by industrial standards and would typically operate in areas previously designated and used for this type of operation. Therefore any effects upon vegetation cover, quantity and quality from air pollutant emissions from equipment and operation would be minor.

E. Aesthetics

The proposed equipment would be visible and audible during operation. However, the equipment performs the same function using the same technology as the previous equipment operated under the MAQP. The proposed equipment would increase the production capacity as well as the overall number of pieces of permitted equipment; therefore, there would be a minor change in the aesthetics of the facility. MAQP #3351-04 would include conditions to control emissions, including visible emissions, from the operation. The crushing and screening operation would be considered a minor industrial source. The facility would be portable and would operate on an intermittent and seasonal basis; therefore, any aesthetic impacts would be minor and short-lived.

F. Air Quality

Air quality impacts from the proposed equipment would be minor because the facility would be relatively small and comparable in nature to other similar sources permitted by the Department. MAQP #3351-04 would include conditions limiting the facility's opacity and crushing and screening production. The permit would also limit total emissions from the crushing and screening facility and any additional equipment operated at the site by the same owner to 250 TPY or less, excluding fugitive emissions.

Further, the Department determined that Nelcon's crushing and screening facility would be a minor source of emissions as defined under the Title V Operating Permit Program because the crushing and screening plant's PTE would be below the major source threshold level of 100 TPY for any regulated pollutant. Pollutant deposition from the project would be minimal because the emissions would be well controlled, widely dispersed (from factors such as wind speed and wind direction), and would have minimal deposition on the surrounding area. Therefore, air quality impacts from the project in this area would be minor. The applicant has indicated that the source would operate on an intermittent and seasonal basis; therefore, actual emissions may be lower than accounted for in the PTE calculations.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources, the Department previously contacted the Montana National Heritage Program (MNHP). Search results concluded there are nine known animal and plant species of concern located within the search area. The search area, in this case, is defined by the township and range of the proposed site, with an additional one-mile buffer. The MNHP concluded that the threatened bird species of Bald Eagle has had recorded sightings to the south and southeast of the project area. The threatened fish species of Bull Trout and sensitive fish species of Westslope Cutthroat Trout have recorded sightings in the Whitefish and Flathead Rivers located to the west and east of the site location. Sensitive plant species of concern sighted to the northeast of the site are the Latah Tule Pea and Small Yellow Lady's-slipper. Other plant species of concern sighted northeast of the site are the Aloina Moss, Short-styled Thistle, Deer Indian Paintbrush, and Maidenhair Spleenwort.

Given the fact that most of the species of concern would not likely be located within the operational area of the project and the nature of similar permitted crushing and screening operations, any effects on the local populations are expected to be minimal. In addition, typical operations would take place within a previously disturbed industrial site, further limiting the potential for impact to any unique endangered, fragile, or limited environmental resource.

H. Demands on Environmental Resource of Water, Air and Energy

The proposed equipment would require an additional small quantity of water, air, and energy for the project. A minimal volume of water would be required for dust suppression of emissions being generated by the screens, crushers, and material handling equipment. Impacts to air resources would be minor because the source would be considered a minor industrial source of air emissions. Energy requirements would also be relatively small because the facility would be powered by the diesel engine/generator. Therefore, impacts to water, air, and energy resources would be minor.

I. Historical and Archaeological Sites

The Department previously contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and archaeological sites that may be present in the proposed area of operation. Search results concluded that there are no previously recorded historical or archaeological resources of concern within the Nelcon home pit area. According to correspondence from the SHPO, there would be a low likelihood of adverse disturbance to any known archaeological or historic site given previous industrial disturbance to the area. Therefore, no impacts upon historical or archaeological sites would be expected as a result of operating the equipment. However, if cultural materials are discovered during this project, or any future project location, the Montana Historical Society should be contacted.

## J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the physical and biological environment in the immediate area would be minor due to the relatively small size and potential environmental impact of the operation. The Department believes that this facility would be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #3351-04.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			Yes

**SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS:** The following comments have been prepared by the Department.

### A. Social Structures and Mores

The proposed project would not cause any disruption to the social structures and mores in the area because the proposed project location is within an existing industrial site. The source would be a minor industrial source of emissions and is expected to have intermittent operations. Operation of the proposed equipment would not expand the home pit area.

### B. Cultural Uniqueness and Diversity

The proposed equipment would be operated within Nelcon's home pit area, or at various locations throughout Montana that have been designated for similar use. The footprint of the project equipment would be small and contained within the existing gravel pit and predominant use of the area would remain the same. The cultural uniqueness and diversity of this area would not be impacted by the proposed project because the facility would be a portable source, with expected seasonal and intermittent operations. Therefore, the cultural uniqueness and diversity of the area would not be affected.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor impacts to the local and state tax base and tax revenue due to the increased production capacity and subsequent increase in product sold on the market. The proposed equipment would not require any additional employees. No new construction would be required to complete the project, and the facility would remain a minor industrial source of emissions with expected seasonal and intermittent operations.

D. Agricultural or Industrial Production

The proposed project would have a minor impact on local industrial production since the facility would increase aggregate production and air emissions slightly. The equipment would be located within Nelcon's home gravel pit, or at various locations throughout Montana that have been designated for similar use. Because minimal deposition of air pollutants would occur on the surrounding land, only minor effects on the surrounding vegetation or agricultural production would occur. In addition, the facility operations would be small and temporary in nature. Pollutant deposition from the project would be minimal because the emissions would be well controlled, widely dispersed (from factors such as wind speed and wind direction), and would have minimal deposition on the surrounding area.

E. Human Health

Conditions would be incorporated into MAQP #3351-04 to ensure that the crushing and screening facility would operate in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. The air emissions from this project would be minimized by the use of water spray bars to control the particulate matter. Furthermore, the applicant has stated that they plan to operate on an intermittent and seasonal basis and therefore only minor impacts would be expected on human health from the proposed facility.

F. Access to and Quality of Recreational and Wilderness Activities

Access to recreational opportunities would not be affected by the operation of the proposed equipment. The equipment would be initially and typically located within a preexisting industrial site. All recreational opportunities, if available in the area, would still be accessible. Noise from the equipment would be similar to the previous activity occurring within the Nelcon home pit. The applicant has stated that the facility would operate on a seasonal and intermittent basis. The pit is on private land and the Department has determined that the project would be a minor industrial source of emissions. Therefore, no changes in the quality of recreational and wilderness activities are expected.

G. Quantity and Distribution of Employment

Nelcon is not expected to require any additional employees to operate the proposed equipment. Therefore, there is no expected impact to the quantity and distribution of employment.

H. Distribution of Population

The proposed equipment is not expected to affect the distribution of population in the Nelcon home pit area. No employees would be relocated to the area as part of this permit action.

I. Demands for Government Services

There would be a very small increase in traffic on existing roadways and highways in the area from the proposed equipment due to the increase in production capacity. Government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, demands for government services would be minor.

J. Industrial and Commercial Activity

A minor increase in the industrial and commercial activity would be expected as a result of the proposed equipment because of the increase in production capacity at the facility. The facility would continue to be a small industrial source and be portable and temporary in nature.

K. Locally Adopted Environmental Plans and Goals

Nelcon would be allowed by MAQP #3351-04 to operate in areas designated by EPA as attainment or unclassified for ambient air quality. MAQP #3351-04 and Addendum #3 allow for operation in or within 10 km of certain PM<sub>10</sub> nonattainment areas, including the Columbia Falls/Kalispell/Whitefish PM<sub>10</sub> nonattainment area where the Nelcon home pit is located. MAQP #3351-04 and Addendum #3 would contain production and opacity limits for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards. Because the facility would be small and portable, any impacts from the project are expected to be minor and short-lived.

L. Cumulative and Secondary Impacts

Overall, the proposed project would cause minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area of operation because the equipment would be portable and the footprint of the facility would remain relatively small. Furthermore, no other industrial operations are expected to result from this permitting action. Any increase in traffic would have minor effects on local traffic in the immediate area.

This equipment may be operated in conjunction with other equipment owned and operated by Nelcon, but any cumulative impacts or secondary impacts would be expected to be minor and short-term. In conclusion, the source is relatively small, the facility emissions would be minimal, and the project would have only minor cumulative and secondary impacts.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action would update the list of gravel crushing and screening equipment, conveyors, and diesel engine/generator for an existing facility. MAQP #3351-04 and Addendum #3 would include conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau

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